

SECTION 09511

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

- A. Standard for suspension systems: ASTM-C635
- B. Standards for ceiling materials: ASTM-E1264.
 - 1. Surface burning characteristics: Class A, unless more stringent requirements are indicated, as determined by testing identical products in accordance with ASTM-E84.
 - 2. Noise reduction coefficient: As determined for plenum mounting method Type E-400 with face of test specimen 400-mm 15 3/4 IN away from test surface, in accordance with ASTM-E795.
- C. Standard for installation: ASTM-C636.

1.2 SUBMITTALS

- A. Samples:
 - 1. For color and pattern selection.
- B. Contract closeout information:
 - 1. Maintenance data.
 - 2. Letter stating extra material has been delivered.

1.3 JOB CONDITIONS

- A. Carefully coordinate ceiling layout with other work which penetrates acoustical ceiling systems.
- B. Specifically coordinate with sprinkler head spacing.
- C. Install acoustical material after floor and wall finishes.

PART 2 - PRODUCTS

2.1 MATERIALS - ACOUSTICAL SUSPENSION SYSTEMS

- A. Suspension systems - General:
 - 1. Heavy duty systems, ASTM-C635.
 - 2. Main runner jointing by spliced, interlocking ends, tab locks, pin locks, or other suitable connections.
 - 3. Cross runners interlocking with main runners.
 - 4. Provide types indicated.
- B. Acceptable manufacturers:
 - 1. Suspension systems:
 - a. Base:
 - 1) USG/Donn.
 - b. Optional:
 - 1) Armstrong.
 - 2) Chicago Metallic.
 - 2. Other manufacturers desiring approval comply with Section 00440.
- C. Hangers:
 - 1. Galvanized, soft annealed steel wire for general use.

- D. Trim: Provide moldings wherever ceiling meets walls, partitions, other vertical elements, and other types of ceilings or ceiling fixtures; where ceiling mounted fixtures have integral flange trim, no additional trim is required.
- E. Suspension system:
 - 1. Specifier: Delete types not used. Where more than one type is used on the project, add "for ceiling type AM-____." to each. .Exposed 15/16 IN wide grid, non-rated.
 - a. Galvanized single web steel main and cross runners.
 - b. Exposed tee configuration: flat face.
 - c. Material: Galvanized steel or aluminum.
 - d. Smooth flat white finish on exposed surfaces.

2.2 CEILING MATERIALS

- A. Ceiling type AM-1: Fiberglass.
 - 1. Acceptable manufacturers:
 - a. Base:
 - 1) USG.
 - b. Optional:
 - 1) Armstrong World Industries.
 - c. Other manufacturers desiring approval comply with Document 00440.
 - 2. Finish: Acrylic paint.
 - 3. Light reflectance: Not less than 0.89.
 - 4. Noise reduction coefficient: Not less than 0.85.
 - 5. Surface burning characteristics: Class A.
 - 6. Edges: Square.
 - 7. Standard size:
 - a. 24 IN x 24 IN.
 - b. Minimum 3/4 IN thick.
 - 8. Product.
 - a. Manufacturer: USG.
 - b. Product name/number: Mars Climaplust.
 - c. Style and pattern: 86200.
 - d. Color: White.

2.3 ACCESSORIES

- A. Wire:
 - 1. Zinc coated carbon steel, ASTM-A641, soft temper, prestretched, Class 1 coating.
 - 2. Minimum 0.105 diameter and sized for yield stress of minimum 3 times hanger design load listed in ASTM-C635 for suspension system used.
- B. Attachment devices: Sized for minimum 5 times design load listed in ASTM-C635 for suspension system used.
- C. Carrying channels for ceiling supported items: Steel, minimum 1 1/2 IN wide and weighing minimum 0.46 LB/FT.

2.4 EXTRA MATERIAL

- A. Provide Government with one carton of each type and pattern of material for maintenance purposes.
- B. Provide in sealed labeled boxes to facilitate identification.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify suitability of substrate to accept installation.
- B. Installation constitutes acceptance of responsibility for performance.

3.2 PREPARATION

- A. Consult other trades involved before start of ceiling work, to determine areas of potential interference.
- B. Do not start installation until interferences have been resolved.

3.3 INSTALLATION - SUSPENSION SYSTEM

- A. Install suspension system in accordance with ASTM-C636 and manufacturers' instructions.
- B. Grid layout: See Reflected Ceiling Plans.
 - 1. Install grid square with room and with grid center lines or acoustical panel center lines coinciding with center lines of room, each direction.
 - a. Acoustical panel dimension at perimeter walls: Not less than 6 IN.
 - b. In case of conflict with lighting plan contact the Government.
- C. Do not use defective or damaged materials.
- D. Provide hangers and inserts necessary to support acoustical ceilings.
 - 1. Provide in time to avoid delay in progress of work.
 - 2. Locate and align hangers and inserts correctly.
 - 3. Coordinate location and alignment with work of other trades.
 - 4. Provide supplementary rough suspension system and trapeezing where necessary to support acoustical ceilings beneath pipes, ducts, equipment, etc.
 - 5. Do not suspend any part of suspension system or acoustical ceilings from ducts, pipes, conduit, equipment, etc.
- E. Space hangers to prevent loads from items in or on ceiling from causing eccentric deflection and rotation.
 - 1. Provide additional hangers to support lighting fixtures.
 - 2. Provide additional hangers within 6 IN of end of main runners.
 - 3. Do not bear runners on walls or partitions.
- F. Install moldings where ceilings meet walls, partitions, other vertical elements, and other types of ceilings.
 - 1. Support runners and border units on moldings.
 - 2. Secure moldings to wall construction by fastening through holes drilled in web.
 - 3. Space holes not more than 3 IN from each end and at each stud.
 - 4. Draw up fasteners tight against vertical surfaces.
 - 5. Miter cut inside and outside corners.
 - 6. Level to a tolerance not more than 1 in 1000.
 - 7. Install with leg supporting bottom flange of runners.
- G. Leave suspension system ready to accept installation of acoustic materials.

3.4 INSTALLATION - ACOUSTIC MATERIALS

- A. Install acoustic materials into suspension system in accordance with manufacturer's instructions.
- B. Field cut as required to fit materials to grid.
- C. Make cuts square and true.
- D. Do not install damaged units.

3.5 CLEANING

- A. Perform cleaning and replacement of defective units in time to avoid delay in progress of work and before final completion of work.

- B. Carefully clean soiled surfaces.
- C. Remove and replace irregular, discolored, defective or damaged components at no additional expense to the Government.

END OF SECTION